

## WHAT IS CLAIMED IS:

1. A product for the removal of negatively charged particles comprising a substrate having thereon a positively charged chemical compound wherein said chemical compound allows at least 80 percent survival of a bacterial colony.
- 5 2. The product of claim 1 where the positively charged chemical compound is embedded in melt-extruded polymer fibers.
3. The product of claim 1 where the positively charged chemical compound *is applied to a surface of said substrate.*
4. The product of claim 1 wherein said chemical compound is a cationic  
10 polymer.
5. The product of claim 1 wherein said chemical compound is an epichlorohydrin-functionalized polyamine.
6. *The product of claim 1 wherein said chemical compound is positively charged nanoparticles.*
- 15 7. The product of claim 1 wherein said chemical compound is an alumina oligomer.
8. The product of claim 3 where said substrate is treated with heat at a temperature and for a time sufficient to adhere said compound to said substrate.
9. The product of claim 1 wherein the substrate is made from a nonwoven  
20 fabric made according to a method selected from the group consisting of meltblowing, coforming, spunbonding, airlaying, bonding and carding, zero strain stretching and Z-directional orienting.

10. The product of claim 3 wherein said chemical compound is applied to said substrate in an amount between 0.01 and 10 weight percent on an aqueous basis.

11. The product of claim 3 wherein said chemical compound is applied to  
5 said substrate in an amount between 0.05 and 7 weight percent on an aqueous basis.

12. The product of claim 3 wherein said chemical compound is applied to said substrate in an amount between 0.1 and 5 weight percent on an aqueous basis.

13. The product of claim 1 wherein said substrate reduces bacterial growth  
10 according to a bacteria binding procedure by at least 50 percent.

14. The product of claim 1 wherein said substrate reduces bacterial growth according to a bacteria binding procedure by at least 75 percent.

15. The product of claim 1 wherein said substrate reduces bacterial growth according to a bacteria binding procedure by at least 90 percent.

15 16. The product of claim 1 wherein said substrate is selected from the group consisting of personal care products, oral care products and storage items, personal grooming products, facial tissue, toilet tissue, face masks, surgical gowns, drapes, medical devices, gloves, toilet bowl cleaners, hard surface cleaners, sponges, kitchen cleaning materials, agricultural, animal and pet care items, kitty  
20 litter, seed preparations, soil treatments, air filters, water filters, ion removal filters and food storage pads.

17. A product for the removal of bacteria from surfaces comprising a cationic chemical compound coated onto a substrate at a temperature and for a time sufficient to adhere said chemical compound to said substrate, wherein said chemical compound allows at least 80 percent survival of a bacterial colony.

5           18. The product of claim 17 comprising hydroentangled pulp and synthetic fibers.

19. A product for the removal of bacteria from surfaces comprising a web of pulp and synthetic fibers having thereon a cationic nanoparticle treatment.